

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
IN-OFFICE REVIEW/BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATIONExam Date: 01/31/20241. Does this qualify for an in-office field exam (IDAPA 37.03.02.035.01.r)? X Y N

- a. X Irrigation of 5 acres or less
 b. Storage of up to 14.6 AF for stockwater purposes only
 c. Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less.
 d. Other < >

2. Current Owner: **GREG SIMIONE & GERALD DENNETT**Owner of Record Correct? NAddress of Record Correct? N

If No Explain:

3. Beneficial Use Fees have been paid: X Y N Receipt No: C117647

4. Source: Tributary:

UNNAMED STREAM**MIDDLE FORK PAYETTE RIVER**Method of Determination: Boise County Maps, GIS, and Tax lot data.Change in Source: Y X N**B. OVERLAP REVIEW**1. Other water rights with the same place of use: X No Overlap

Water Right No.	Source	Purpose of Use	Basis
65-10660	Groundwater	Domestic	Decreed
65-10811	Groundwater	Domestic	Decreed
65-10867	Groundwater	Domestic	Decreed
65-10870	Groundwater	Domestic	Decreed
65-10921	Groundwater	Domestic	Decreed
65-10960	Groundwater	Domestic	Decreed
65-10984	Groundwater	Domestic	Decreed

Comments: The decreed rights that have POUs overlapping the permit POU are all domestic rights located in different quarter/quarters and Gov Lots 1 & 2, which are south of the permit POU. There are no rights overlapping the permit place of use (POU).

2. Other water rights with the same point of diversion: X NO Overlap

Water Right No.	Source	Purpose of Use	Basis
NONE	NA	NA	NA

Comments: There are no rights sharing the permit point of diversion (POD).

C. DIVERSION AND DELIVERY SYSTEM

1. Location of Point(s) of Diversion:

Source	Govt Lot	¼	¼	¼	Sec	Twp.	Rge.		County
Unnamed Stream			NE	NE	22	10N	04E	B.M.	BOISE

Method of Determination: GIS and Tax lot data.Change in POD? Y X N Amendment Required? Y X N

2. Place of Use: IRRIGATION

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
10N	04E	22	0.9			0.1													1.0
		Lot #																	
Total Acres =																			1.0

Method of Determination: Boise County Maps, Google Earth, GIS, and Tax lot data.

Change in POU? Y X N Amendment Required? Y X N X Delivery System Diagram Description Attached (required). Indicate all major components and distances between components.

Indicate weir size/pipe as applicable:

 X Aerial Photo Attached (required for irrigation of 10+ acres). Photo of Diversion and System Attached

3. Diversion Id No.*	Motor Make	HP	Pump Model	Pump Make	Pump Serial No. or Discharge Size
Screened inlet in Cr	NA	NA	NA	NA	2" pipe, gravity fed

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1. Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NONE	NA	NA	NA	NA	NA	NA

2. Measurement Comments: The permit holder described the diversion as a 2" pipe dropped into the stream, which is gravity fed to the "pit" an area excavated during the home construction that filled with diffuse water. The pond is approximately 550ft from the POD. A maximum elevation drop from the POD to the pond of about 4 ft was estimated to the storage area using Google Earth and the DRG map.

E. FLOW CALCULATIONS Additional Computation Sheets Attached

Measured Method:

A theoretical calculation and Administrative Memo #17 were used to determine a reasonable rate of diversion.**Hazen-Williams Equation:**

$$V = k \times C \times R^{0.63} \times S^{0.54}$$

$$V = 1.318 \times 150 \times 0.08333^{0.63} \times 0.00727^{0.54}$$

$$V = 0.04\text{cfs}$$

k= 1.318 (conversion factor)

friction coefficient for plastic "C"= 150

Hydraulic radius for 2" plastic pipe "R"= 0.08333

Pipe length= approx. 550 ft

Drop in elevation=approx. 4 ft

Slope "S"=0.00727

Theoretical Calculation= 0.04cfs

Permit allowed = 0.03cfs

Recommendation= 0.03cfs

Comments:

The permit holder submitted images of the "pit" and of the irrigated areas, approximately 1.0-acre total irrigation was measured using imagery. The system was described as a 2" pipe lowered into the stream, which delivers water gravity fed to the storage area (the "pit" aka pond). The pond is initially filled by diffuse snowmelt and rain runoff. The permit holder uses buckets to water the fruit trees and a fountain pump to irrigate the grassy areas with a small sprinkler. Fountain pumps are fractional horsepower and typically not efficient, so the permit holder stated that they may later install an irrigation system that is more efficient to pump water from the pond.

The theoretical calculation found that the gravity fed diversion would be capable of 0.04cfs. However, the use was only permitted for 0.03cfs. I am recommending the 0.03cfs diversion rate on the permit be carried on to the license.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.0\text{-acre} \times 3.5 \text{ AF} = 3.5 \text{ AF}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.03 \times 1.9 \text{ cfs} \times 231 \text{ days} \times 1.9835 = 13.8 \text{ AF}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 3.5 \text{ AF}$$

I.R. D.R.

24 hr. Pond Fill Calculation:

Measured area of pond 0.08 Acre, average depth 1ft. = 0.08AF

0.08 AF = CFS x 86,400 s/day x 1 Acre/43,560 ft²

0.08*43560/86400=XCFS (rate necessary)

Rate necessary= 0.04cfs

Comments:

This permit was issued for irrigation use from a natural stream/river source. According to the IDAPA Beneficial Use Examination Rules 37.03.02.35. 01j.viii a diversion volume is not required for irrigation if water is diverted from a natural flowing stream/river or spring.

G. PURPOSE OF USEIrrigation X Y N # Stock NA Domestic # of Homes NA Change in Purpose of Use? Y X N Method of Determination: Boise County Maps, Google Earth, GIS, and Tax lot Data**H. NARRATIVE/REMARKS/COMMENTS**

This permit for the irrigation of 1 acre qualifies for an in-office examination for license. The permit holder submitted the Proof of Beneficial Use, received by IDWR on January 16, 2024, stating in section #3 that the beneficial use was developed for 1 acre of irrigation, comprised of grassy areas, a garden and fruit trees. I was able to identify 1.0 acre of possible irrigation using aerial imagery (see figures 1, 3 & 4) but I needed to confirm the system details and irrigated area, so I called the permit holder on January 31, 2024, requesting additional information including an aerial image outlining and identifying the irrigated area and a system diagram identifying the location and location of the gravity fed diversion from the POD at the stream to the pond. More details for the system, irrigated area, and usage were provided by the permit holder.

After reviewing the permit holder's response to the information request an area of approximately 1.0-acre of irrigation is confirmed. The system is described using buckets and a portable sprinkler supplied by a small fountain pump dropped into an GIS measured 0.08-acre, 0.08 AF pond, that fills naturally with diffuse snow and rain runoff. The pond is maintained by a gravity fed diversion from the unnamed stream using a 2" Polypipe. The gravity fed diversion is capable of filling the pond within a 24-hr. period (see calculation in section F) making no storage component necessary, as per Application processing memo #73. I am recommending the license be issued for an irrigated area of 1.0 acres and a rate of 0.03cfs (as per Administrative Memos #17 and theoretical calculation). As the diversion is from streamflow the volume was not reported on the license (IDAPA Rules 37.03.02.35. 01j.viii).

I am recommending the license be issued with conditions R02, R05, 01R, 185, 103, and R67. Condition 01H was replaced with R02 at licensing as per current guidance. Condition 121 was replaced with condition 103 at licensing, as per current guidance. Conditions 030 and 26A were removed at licensing as construction is complete and as per the condition guidance.

Have conditions of permit approval been met? X Yes No**I. RECOMMENDATIONS**

1. Recommended Amounts:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	03/15 TO 10/31	0.03CFS	Not Stated
	<u>Totals:</u>	0.03CFS	Not Stated

2. Recommended Amendments:

 Change P.D. as reflected above Add P.D. as reflected above X None Change P.U. as reflected above Add P.U. as reflected above X None

Other: < >

J. AUTHENTICATION- Bob Howe- Water Resource AgentField Examiner's Bob Howe Date 4/11/24Reviewer pk Date 4/11/24



Figure 1- Google Earth 2023 image of POU. The "pit" with the incidental pond is in the lower part of the image on the left of the road, where it turns to the south (bottom of image).



Figure 2-Google Earth-2019- Image of the incidental pond at the fullest extent found since the development began. The measured area is approximately 0.08-acre, and the average depth based on topography is approximately 1 ft.



Figure 3- GIS 2023- Image of POU outlined in yellow. Light blue point is the point of diversion. The pond is visible in the lower right quarter. The purple rectangle is the permit POU shape.